



New Size Record and a Second Locality for the Pinar del Rio Giant Blindsnake, *Cubatyphlops golyathi* (Squamata: Typhlopidae), with Comments on its Conservation Status

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The genus *Cubatyphlops* Hedges, Marion, Lipp, and Vidal 2014 is endemic to the West Indies and includes taxa belonging to the ancient *Typhlops biminiensis* species group (Hedges et al. 2014). It comprises 12 currently recognized species that occur in the Bahamas, Cayman Islands, and Cuba (Uetz et al. 2021), the latter being the hotspot of the genus with eight species (Hedges et al. 2019).

The Pinar del Rio Giant Blindsnake, *Cubatyphlops golyathi* (Domínguez and Moreno 2009), the most recently described species in the genus, is based on a single specimen deposited in the herpetological collection of the Institute of Ecology and Systematics, Havana, Cuba (CZACC 4.5385), from the Valle de San Vicente, Viñales Municipality, Pinar del Río Province (Domínguez and Moreno 2009). This western Cuba endemic (Rodríguez-Schettino et al. 2013) with a local distribution has an area of occupancy (AOO) of 4 km² and an unknown population size (Rodríguez-Schettino 2012). Herein we report a new size record and a second locality for *C. golyathi*.

On 12 April 2019, during a field expedition to Viñales National Park in western Cuba, the junior author visited Cueva Tapiada in Santo Tomás, El Moncada, Viñales Municipality, Pinar del Río Province, Cuba (83°50'38.629"W; 22°32'41.070"N; WGS84), and collected a *Cubatyphlops golyathi* in leaf litter on limestone in front of the cave entrance (Fig. 1). This is the second known locality for the species and is located 19.8 km airline distance SW of the type locality. The identity of the specimen was verified by Michel Domínguez and it was deposited in the Institute of Ecology and Systematics (CZACC 4.13365).

We recorded the linear measurements and meristic characters of the specimen (Table 1), of which the 480 mm SVL, 13 mm tail length, and 493 mm total length

represent a new size record for the species. The specimen has a moderate body form (TL/MLB = 53.9), head slightly distinct from the neck, ogival in dorsal view, as broad as long (HWM/HL = 1.05) and dorsoventrally depressed; a narrow ogival snout (IND/HWM = 0.44); semi-broad rostral (RWD/RLD = 0.78) with weakly parallel sides and rounded posterior apex; parietals and occipitals, both enlarged, oblique to body axis; strongly divergent postnasal pattern (PPNW/APNW = 0.51); a single preocular with “S” pattern, higher than broad (RC/PW = 0.41) and in contact with the second and third supralabials (Fig. 2);



Fig. 1. A Pinar del Rio Giant Blindsnake (*Cubatyphlops golyathi*) (CZACC 4.13365) from Cueva Tapiada in Santo Tomás, El Moncada, Viñales Municipality, Pinar del Río Province, Cuba. Photograph by L. Yusnaviel García-Padrón.

Table 1. Measurements, proportions, and meristic data of the two known specimens of the Pinar del Río Giant Blindsnake (*Cubatyplops golyathi*). Characters: SVL = snout-vent length; TA = tail length; TL = total length; ABD = anterior body diameter; MBD = midbody diameter; PBD = posterior body diameter; TD = mid-tail diameter; HWM = maximum head width; HL = head length; IND = internostril distance; RWD = dorsal rostral width; RLD = dorsal rostral length; PPNW = posterior postnasal width; APNW = anterior postnasal width; IOD = interorbital distance; ED = eye diameter; RC = minimum preocular length; PW = preocular width.

Character	Holotype	CZACC 4.13365
SVL (mm)	360	480
TA (mm)	11	13
TL (mm)	371	493
TL/ABD	88.3	85.7
TL/MBD	58.0	53.9
TL/PBD	70.0	67.4
TA/TD	3.0	2.9
HWM/HL	1.06	1.05
IND/HWM	0.50	0.44
RWD/RLD	0.92	0.78
PPNW/APNW	0.61	0.51
ED (mm)	0.28	0.44
RC/PW	0.51	0.41
IOD (mm)	2.63	4.02
Middorsal scale count	629	592
Anterior scale rows	26	26
Posterior scale rows	22	24
Scale row reduction (% TL)	41	31
Dorsocaudal scale count	20	20
Ventrocaudal scale count	22	22

high middorsal scale count (592); 26 scale rows anteriorly, reduced to 24 posteriorly at 31% TL or 220th middorsal scale level; dorsocaudals 20 and ventrocaudals 22.

According to Domínguez and Moreno (2009), *C. golyathi* has a posterior reduction of four longitudinal scale rows, a unique characteristic (autopomorphy) among the species in this genus. However, CZACC 4.13365 has a posterior reduction of only two longitudinal scale rows (26–24), which also is present in *C. arator* (Thomas and Hedges 2007), the most closely related species. Nonetheless, *C. arator* has a lower middorsal scale count (579), and differs in scalation and head pattern (see Table 2 in Domínguez and Moreno 2009). CZACC 4.13365 also is larger than the holotype of *C. arator* (493 mm TL vs. 460 mm TL), and therefore also represents a new size record for the genus and is the second largest record for

the subfamily Typhlopinae (Hedges et al. 2014; Pyron and Wallach 2014). According to Thomas and Hedges (2007) during a field expedition to western Cuba in the 1980s, in the Cueva de San Miguel near Viñales, Pinar del Río Province, a very large specimen was collected, even larger than the holotype of *C. arator*. These authors stated that this individual was one of the largest scolecophidians known in the Western Hemisphere. Unfortunately, we cannot compare it with specimen CZACC 4.13365 because it is apparently missing (L. Díaz, in Thomas and Hedges 2007). Another large specimen was collected in 2006 by the junior author in Viñales, with about 600 mm of total length; but unfortunately this individual escaped from captivity. Because of their fossorial habits, the blindsnakes are very difficult to encounter and we have much to learn about them (Pyron and Wallach 2014).

Cubatyplops golyathi was evaluated in the Red Book of Cuban Vertebrates as Critically Endangered (CR) due to its limited distribution (Rodríguez-Schettino 2012). The species was assessed as Data Deficient (DD) on the IUCN Red List (Fong 2017) because its distribution, abundance, and threats were too poorly understood to accurately estimate the extinction risk of the species. We herein record a second locality for the species, increasing the AOO by 8 km². We also recommend that the species' conservation status and extent of occurrence be reevaluated. The two known localities are in a mountainous system consisting of several mountain ranges and small hills (elevations 100–350 m asl) with a total area of 142.8 km² (Fig. 3). The type locality is in a lowland bordered in the east by San Vicente's Hill, in the north by the Ancon and San Vicente Mountain Ranges, and in the south by La Guasasa Mountain Range. The new locality is at the northernmost extent of the Quemado Mountain Range.

According to IUCN criteria (IUCN Standards and Petitions Committee 2019), *C. golyathi* could be classified as Endangered (EN) under criterion B.1, subcriterion a (number of locations ≤ 5) and b.ii (continuing declines in EOO) and b.iii (continuing declines in quality of habitat). Although the cause(s) of the continuing decline in the EOO are not entirely clear (Fong 2017), the decline in habitat quality is attributable to anthropogenic activities in the area. These include agriculture, clearing remaining forests for grazing, expansion of human settlements, and tourism, the latter being the principal driver of the local economy. At this time, no management and conservation programs exist for this species (Fong 2017). Although both the type locality and the new locality are in Viñales National Park (CNAP 2013), *C. golyathi* unfortunately was not included in the management plan for the park (Sánchez et al. 2020), which addressed only two reptilian species (*Anolis bartschi* and *A. vermiculatus*). Additional surveys and research on population trends, natural history, and threats to the species are essential.

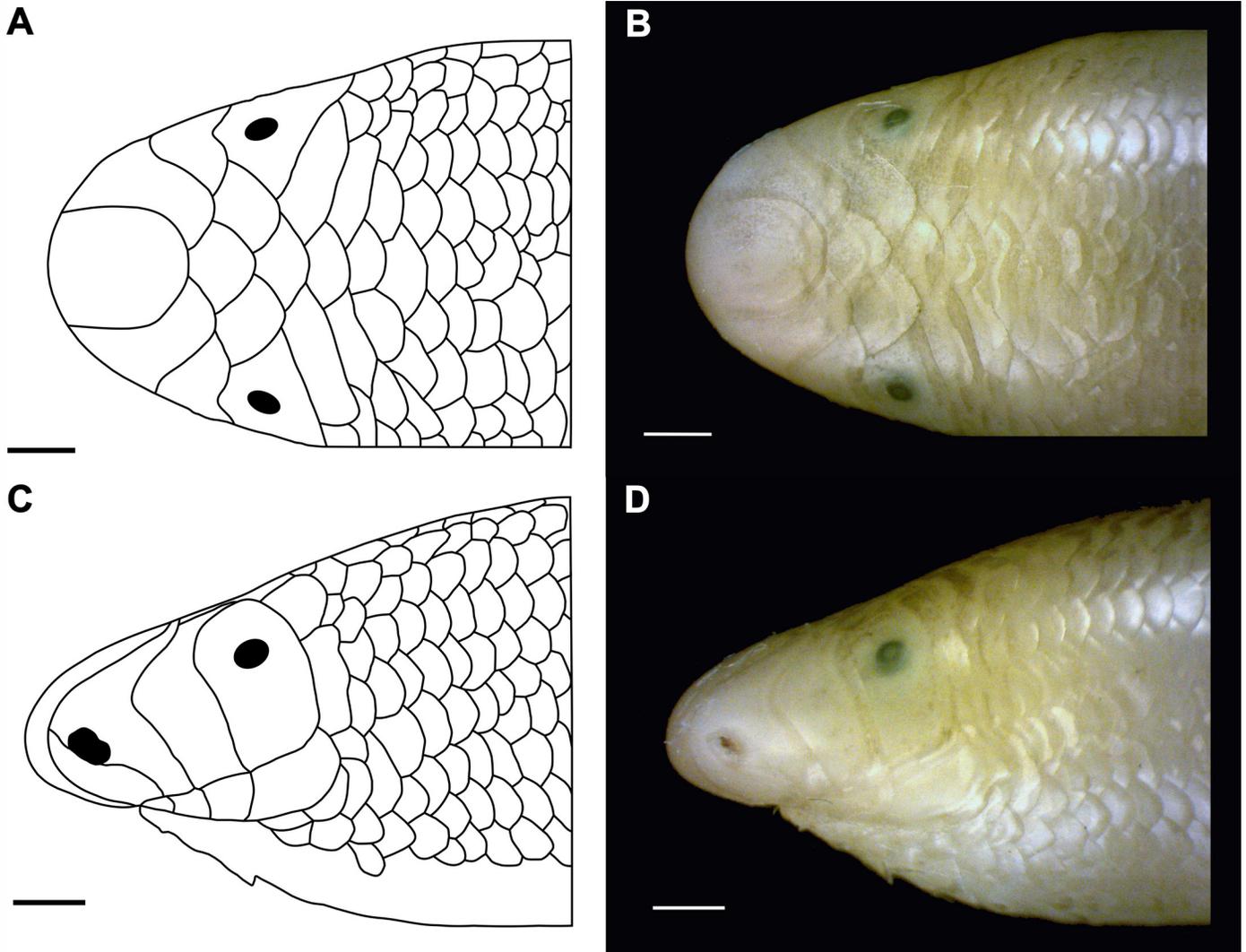


Fig. 2. Dorsal (A & B) and lateral (C & D) views of the head of a Pinar del Río Giant Blindsnake (*Cubatypbhlops golyathi*) (CZACC 4.13365) from Cueva Tapiada in Santo Tomás, El Moncada, Viñales Municipality, Pinar del Río Province, Cuba. Scale bars = 1 mm. Photographs by Manuel Iturriaga.

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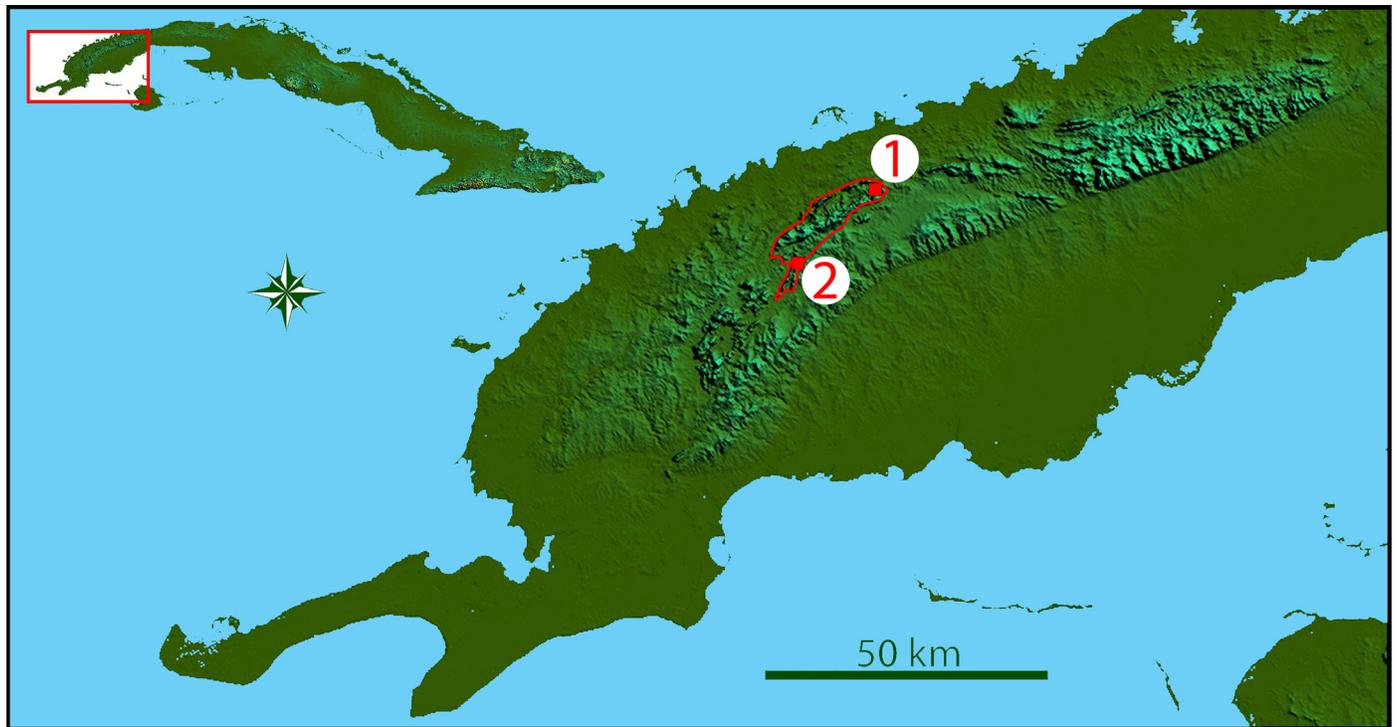


Fig. 3. Distribution of the Pinar del Río Giant Blindsnake (*Cubatyphlops golyathi*) in western Cuba: (1) Valle de San Vicente, Viñales Municipality (type locality), and (2) Cueva Tapiada, Santo Tomás, El Moncada, Viñales Municipality, both in Pinar del Río Province, Cuba.

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